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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,016	08/26/2003	Martin Alter	M-085	3466

7590 03/24/2005

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EXAMINER


PAREKH, NITIN

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,016	Applicant(s) ALTER, MARTIN 	
	Examiner Nitin Parekh	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/21/05 has been entered. An action on the RCE follows.

2. The amendment filed on 12/13/2004 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Akram et al. (US Pat. Pub. Application 2004/0238957).

Regarding claim 1, 4 and 5, Akram et al. disclose an integrated circuit (IC) structure comprising:

- an IC die (12 in Fig. 1E)
- die contacts/pads including conventional ground, power or I/O pads (see sections 0004, 0009 and 0038- 16 in Fig. 1A-1E) for connecting to the IC die and a top metal layer (30/14 in Fig. 1A-1E)
- wafer-level packaging (WSP) including a dielectric material layer (28 in Fig. 1E) superjacent the IC die and a conductive material beam/bump out beam (CMB/BOB- see 36 in Fig. 1E; sections 0041, 0042, 0052 and 0057) encapsulated/encased in the dielectric material layer and leading to a connector bump (see 14/14Vcc in Fig. 1B and 1E) on an external surface of the dielectric material, and
- an active circuit element such as a capacitor (see 32 in Fig. 1E) being integrated in the WSP with a segment of the CMB/BOB, the capacitor having a first electrode/plate formed by a predefined region of the CMB/BOB and a grounded second electrode/plate embedded in the dielectric material (see 36 and 34 respectively in Fig. 1E) of the die proximate the predetermined region to provide protection against signal/power supply noise and filter transient voltages (sections 0041-0043)

(Fig. 1E; Fig. 1A-1E; sections 0035-0043 and 0001-00057).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akram et al. (US Pat. Pub. Application 2004/0238957) in view of admitted prior art (APA).

Regarding claim 9, Akram et al. teach the entire claimed structure as applied to claims 1, 4 and 5 above, except the capacitor functioning as an ESD protection capacitor.

The APA teaches using circuit elements such as a conventional capacitor providing functions such as protection against voltage spikes, ESD, etc. (see specification pp. 10) for the IC die/circuit.

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the ESD protection capacitor being integrated in the WSP as taught by the APA so that the desired ESD protection, noise reduction and electrical characteristics can be achieved and the reliability/performance of the IC structure can be improved in Akram et al's structure.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 4, 5 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

03-13-05



NITIN PAREKH

PRIMARY EXAMINER

TECHNOLOGY CENTER 2800